Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	CC Docket No. 95-116
Telephone Number Portability	)	

COMMENTS OF U S WEST COMMUNICATIONS, INC.

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SUMMARY

In issuing its Cost Recovery Order on Local Number Portability, the Commission asked for assistance in determining what portion of LNP Joint Costs should be classified as "carrier-specific costs directly related to providing number portability." As U S WEST notes in the accompanying comments, there is no simple answer to this question because so much depends on the individual circumstances facing incumbent LECs. For example, in many locations in U S WEST's service area, the costs of multi-functional software must be assigned entirely to number portability because the software would not have been purchased but for LNP (and revenue streams from other advanced switch-based services are expected to be de minimis). Any other assignment of costs in such cases would be a violation of the "competitive neutrality" requirement contained in Section 251(e)(2) of the 1996 Telecommunications Act.

Even in those cases where there is sufficient market demand to deploy multi-functional software, the implementation of LNP will increase significantly the traffic loads on incumbent LECs' CCS networks -- including both end-office switches and signaling networks. The implementation of LNP may result in the accelerated replacement of existing switches and will be the cause of a major expansion in incumbent LECs' signaling networks. These costs include both the costs of early retirement of existing switches (i.e., depreciation) and the cost of advancing purchase dates for replacements (i.e., the cost of money) in addition to signaling links, SCPs and STPs. Clearly, all such costs are "carrier-specific costs

directly related to providing number portability" and must be taken into account in calculating the LNP end-user surcharge.

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U S WEST Communications, Inc. ("U S WEST"), through counsel and pursuant to the Federal Communications Commission's ("Commission") Third Report and Order on Telephone Number Portability ("Cost Recovery Order"),[1] hereby files its comments on the apportionment of joint local number portability ("LNP") costs.

I. INTRODUCTION

Section 251(b)(2) of the 1996 Telecommunications Act (the "Act") requires that all local exchange companies ("LEC") -- both incumbents and new LECs -- provide number portability in accordance with rules adopted by the Commission.[2] The Act defines number portability as "the ability of users of telecommunications services to retain, at the same location, existing telecommunications numbers without impairment of quality, reliability, or convenience when switching from one

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[1] In the Matter of Telephone Number Portability, CC Docket No. 95-116, RM 8535, Third Report and Order, FCC 98-82, rel. May 12, 1998 ¶ 75 ("Cost Recovery Order" or "Third Report and Order"). These comments are in response to paragraph 167 of the Third Report and Order.

[2] 47 U.S.C. § 251(b)(2).

telecommunications carrier to another."[3] Congress required that the costs of establishing local number portability be borne by all "telecommunications carriers on a competitively neutral basis."[4] The Commission has adopted a two-part test to determine whether a particular approach to LNP is competitively neutral. "Under this test, the way carriers bear the costs of number portability: (1) must not give one service provider an appreciable, incremental cost advantage over another service provider when competing for a specific subscriber; and (2) must not disparately affect the ability of competing service providers to earn a normal return."[5] Despite the "apparent fairness" of this test, it is unquestioned that incumbent LECs and their customers will bear the vast majority of the costs associated with implementing the Commission's interpretation of the Act's number portability requirement.[6]

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[3] 47 U.S.C. § 153(a)(2)(46). The Commission has found that the Act's number portability requirement is limited to "service provider portability." In the Matter of Telephone Number Portability, First Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd. 8352, 8447 ¶ 181 (1996) ("First Report and Order"), appeals pending on other grounds sub noms. U S WEST, Inc. v. FCC, No. 97-9518 (10th Cir. held in abeyance Sep. 12, 1997), Bell Atlantic NYNEX Mobile, Inc. v. FCC, No. 97-9551 (10th Cir.), on recon. 12 FCC Rcd. 7236 (1997); Second Report and Order, 12 FCC Rcd. 12281 (1997). Cost Recovery Order ¶ 3.

[4] 47 U.S.C. § 251(e)(2).

[5] Cost Recovery Order ¶ 53.

[6] Incumbent LECs will suffer the equivalent of a "quadruple whammy" -- (1) they will incur most of the costs of implementing number portability; (2) the primary beneficiaries of number portability will be facilities-based competitive LECs ("CLEC") and customers moving from incumbent LECs to these CLECs; (3) cost recovery is limited to a surcharge on those customers who continue to be served by the incumbent LEC (including customers purchasing service from resellers); and (4) incumbent LECs' surcharges will be subject to Commission review under existing tariff rules. While this result may satisfy the Commission's view of "competitive

In fulfilling its statutory duties, the Commission has issued three broad Orders on LNP -- the most recent being the Third Report and Order which focuses on cost recovery for permanent LNP. In addressing the issue of LNP cost recovery, the Commission has identified three categories of LNP costs: Type 1 - shared industry costs primarily consisting of regional databases and associated administration; Type 2 - carrier-specific costs directly related to providing number portability; and Type 3 - carrier-specific costs not directly related to providing number portability.[7]

In its Cost Recovery Order, the Commission concluded that Type I costs (shared costs) should be treated as Type 2 costs once Type 1 costs have been allocated to specific carriers.[8] The Commission also concluded that Type 3 costs -- costs not directly related to providing number portability -- are not costs of providing number portability and need not "be borne by all telecommunications carriers on a competitive neutral basis" in accordance with Section 251(e)(2) of the Act.[9] On the basis of this finding, the Commission concluded that general overhead loadings could neither be included in LNP costs nor recovered through query or end-user LNP charges.[10]

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neutrality," from an incumbent LEC's perspective it cannot be considered to be anything other than a "competitive disadvantage."

[7] See note 3 supra. Cost Recovery Order ¶ 68.

[8] Id. ¶ 69.

[9] Id. ¶ 37.

[10] Id. ¶ 74. U S WEST has sought reconsideration of the Commission's prohibition on the inclusion of general overhead loadings in establishing query charges. There is no logical reason to prohibit the inclusion of such overheads in the charge for

The Commission's prior cost categorization findings had one major oversight -- Joint Costs. Those costs which are "carrier-specific costs directly related to providing number portability" but also provide other features and functionalities unrelated to LNP. The best example being software switch generics which provide multiple capabilities -- one of which is LNP. In its Cost Recovery Order, the Commission stated that it would "also consider as carrier-specific costs directly related to the provision of number portability that portion of a carrier's joint costs that is demonstrably an incremental cost carriers incur in the provision of long-term number portability."[11] In making this statement, the Commission recognized that number portability would cause LECs serving less populous areas to incur upgrade costs that they would not have incurred in the absence of LNP.[12]

To assist in determining how Joint Costs should be apportioned between Type 2 and Type 3 costs, the Commission asked for comments from carriers and other interested parties. In the sections which follow, U S WEST responds to the Commission's request. In evaluating U S WEST's comments and those of other parties, the Commission should not lose sight of the fact that, other than query charges, incumbent LECs will be recovering LNP implementation costs from their own customers -- not from facilities-based CLECs or their customers (most of whom are former incumbent LEC customers). Thus, while it is likely that most incumbent

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query service which is no different from any other "new service" which generally incorporates general overheads. See U S WEST Petition for Reconsideration, CC Docket No. 95-116, filed July 29, 1998.

[11] Cost Recovery Order ¶ 73.

[12] Id.

LECs will want to recover the costs incurred in implementing the LNP statutory requirement, they have an incentive to minimize the cost of any LNP surcharge since it will be assessed on their remaining customers -- rather than the primary beneficiaries of LNP.

II. U S WEST'S IMPLEMENTATION PLAN FOR LNP

Prior to addressing the issue of Joint Cost apportionment, a brief review of U S WEST's LNP plans is appropriate. U S WEST serves a lightly populated 14-state region which only includes ten of the top 100 metropolitan statistical areas ("MSA") -- all of which pale in comparison to mega-MSAs such as New York, Chicago or Los Angeles. Despite the vastness of its service area, U S WEST is encountering competition on all fronts from multiple competitive access providers ("CAP")/CLECs in cities such as Phoenix to lone competitors in small towns in Iowa and other rural locales. As such, U S WEST has received both bona fide requests ("BFR") and expressions of interest in LNP in many locations where U S WEST would not have anticipated competition a few short years ago.[13] In recognition of this competitive reality, U S WEST now assumes that it will receive requests throughout its service area and expects to provide LNP capability in all of its switching entities over the next five years.

U S WEST's current LNP implementation plan is predicated on a short-term

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[13] For example, U S WEST has already received BFRs for central offices serving Clinton, Iowa which serves 18,819 access lines out of two central offices and Burlington, Iowa which serves 21,525 access lines from one central office. U S WEST has also received expressions of interest for most central offices serving North and South Dakota.

"least cost approach." Under this approach U S WEST has developed the lowest cost alternative to deploy number portability capability in a competitively neutral manner in accordance with the Commission's implementation deadlines over the next five years.[14]

A key factor in determining the "least cost" of implementing LNP is the impact on existing switches. For example, in most locations served by Lucent 1AESS switches, U S WEST is faced with the decision to either upgrade or replace existing switches in order to add LNP capability. Switch replacements are expected to occur only where the addition of LNP puts a switch in an "exhaust" status. In all other instances under U S WEST's least cost approach, LNP will be accommodated by adding capability to 1AESS switches or reducing the load on 1AESS switches (i.e., by adding new remote digital switches to existing 5ESS switches in adjacent wire centers -- thereby expanding the coverage of these switches).

While U S WEST may decide at some future date that early replacement of its 1AESS switches best meets its business needs, the costs of such a decision (which are significantly greater than U S WEST's least cost plan) will not be included in the LNP surcharge. Thus, U S WEST's least cost approach protects customers by establishing a ceiling on the LNP surcharge while allowing U S WEST the flexibility to modify its switch replacement plans to best suit its business needs.

[14] Needless to say, U S WEST's LNP costs would differ if the Commission had established different time horizons.

III. LNP COSTS

The Commission's Cost Recovery Order recognizes two categories of "carrier-specific costs directly related to providing number portability:" (1) costs that are directly attributable to number portability; and (2) Joint Costs.

A. Directly Attributable Costs

LNP will result in significantly higher traffic loads on incumbent LEC CCS networks because database inquiries will be required on virtually all interoffice calls. In Minneapolis alone, U S WEST has had to expand its CCS network to accommodate an additional 787 queries per second with the implementation of LNP. In addition to voice switches, which are discussed below, there are four components of U S WEST's CCS network which must be expanded: 1) signaling links; 2) CCS switches, known as Signal Transfer Points ("STP"); 3) Service Control Points ("SCP"), often referred to as processing, or downstream, databases; and 4) the Local Service Management System ("LSMS") or administrative database.[15] Signaling links are the facilities connecting switches to STPs and STPs to SCPs. Signaling links transport SS7 messages such as number portability database queries. In Minneapolis alone, U S WEST installed approximately 50 percent more

[15] U S WEST acknowledges that the Commission has previously cited SS7 upgrades as an example of "indirect carrier-specific costs to implement number portability." (See First Report and Order, 11 FCC Rcd. at 8465 ¶ 227.) However, in its Cost Recovery Order the Commission recognized that a portion of such upgrades is a "carrier-specific cost[ ] directly related to the provision of number portability" and cited SCPs and STPs reserved exclusively for number portability as an example of such costs. (See Cost Recovery Order ¶ 73). It is U S WEST's opinion that few costs are "more directly related to the provision of number portability" than those costs associated with expansion of U S WEST's signaling network necessitated as a result of the 1996 Act's LNP requirement.

signaling links to support LNP (i.e., 51 additional links).[16] U S WEST expects to almost double the number of signaling links in its network over the next five years in order to implement LNP.[17]

In many instances, additional mated STP pairs or larger processors will be required with the implementation of LNP due to limitations on the number of signaling links that can be supported with current STP capacity. For example, with the implementation of LNP in Minneapolis, U S WEST had to replace the existing 21210 processors in the mated pair of Ericsson STPs serving Minneapolis with larger 21220 processors.

Incumbent LECs must also install dedicated mated SCP pairs in order to implement LNP. U S WEST expects to install five additional SCP dedicated pairs in implementing LNP in its service area. The costs of these mated SCP pairs are entirely attributable to LNP.

Each telecommunications carrier with LNP obligations must also install a LSMS which coordinates ported number information with the regional Number Portability Administration Center ("NPAC").[18] The LSMS stores ported number

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[16] These links are broken down as follows: 1-- New SSP-STP link to serve one end office not currently equipped with SS7; 6 -- Additional SSP-STP links to add capacity to existing SS7-equipped end offices; 32 -- New STP-number portability SCP links; and 12 -- New C links which connect STPs with each other.

[17] As of the end of 1996, U S WEST had 1,097 signaling links in place. An additional 898 links are expected to be added during the 1997-99 period solely for purposes of implementing LNP. After 1999, additional links will be required to accommodate the growth in LNP queries.

[18] U S WEST purchased the Advanced Services Management System ("ASMS") from Bellcore in order to meet this critical need.

information for U S WEST's entire region and downloads this information to signaling components to ensure that calls are routed to the appropriate local service provider.

In addition to the above costs associated with expanding SS7 to support number portability, numerous other operating support systems ("OSS") must be modified and tested if LNP is to function properly. These systems support service order entry, billing, and service activation among other things. U S WEST has had to modify approximately 70 internal OSSs in order to implement LNP. In addition to expending internal resources to modify these systems, U S WEST incurred costs for licensing software, external vendors/consultants, and additional hardware. One critical piece of this effort is integrated testing with other service providers to insure that LNP functions properly between service providers. The Commission should recognize that all such OSS costs are directly attributable to LNP.

B. Joint Costs

Joint Costs can be further disaggregated into two categories: (1) costs which are incurred because switch/replacement upgrades must be accelerated in order to provide LNP capability; and (2) costs of deploying multi-functional software which would not be incurred in the absence of the LNP requirement.

The second category of costs provides customers with additional functionality (other than LNP) where market demand is insufficient to justify deploying the software in the absence of the LNP requirement.[19] An example of such cost is the

[19] See Cost Recovery Order ¶ 73.

deployment of LNP capability to two central offices in Clinton, Iowa which serve approximately 19,000 lines. In these central offices, U S WEST expects to spend $112,000 for software to upgrade these switches to provide LNP capability. This is an expense that would not have been incurred in the absence of the LNP requirement because it is highly unlikely that the switches in Clinton, Iowa would have been upgraded prior to replacement.

The first category of Joint Costs consists of accelerated switch replacements and generic software upgrades. For example, in Minneapolis, U S WEST is replacing two existing Lucent 1AESS switches with a single 5ESS digital switch in order to provide LNP.[20] U S WEST had planned to replace these switches in 2003 but existing processor capacity was insufficient to accommodate the addition of LRN software. As a result, U S WEST had to replace these switches six years ahead of schedule.[21]

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[20] LNP places a greater demand on the processing capacity of 1AESS switches. Also, the Location Routing Number ("LRN") feature reduces the amount of processor capacity available for other uses. The number of 1AESS switch replacements due to the implementation of LNP is directly related to the amount of processor capacity currently being used and the additional capacity needed to utilize LRN.

Another attribute of the 1AESS switch which may force a LEC to replace a 1AESS with the implementation of LNP is the limit on the amount of number groups that can be handled by these switches. Without number group expansion, a switch may be unable to accommodate the movement of subscribers from other service providers to incumbent LECs such as U S WEST. Lucent Technologies has indicated that it has no plans to expand number group capacity of the 1AESS switch beyond the current maximum of 126 thousand groups.

[21] But for the LNP implementation deadline for Minneapolis, the existing 1AESS switches would have been able to accommodate normal line growth (from the 76,512 lines in service during 1997) until they were scheduled to be replaced in 2003.

U S WEST incurs two types of costs due to such accelerated replacements -- cost associated with the time value of money due to the early purchase and installation of a replacement switch and the cost of early retirement of the existing switch prior to it being fully depreciated. Both of these costs are "incremental" costs which are incurred as a result of LNP and should be classified as Type 2 costs for purposes of calculating the LNP end-user surcharge.

The second category of Joint Costs, while slightly more subjective, is just as real. That is, there are many locations in U S WEST where switches have not been upgraded to provide software-based services that are common in large metropolitan areas. The reason is simple -- it is uneconomical to purchase and deploy such software where there is insufficient market demand.[22] This is not to say that

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[22] In previous Ex Parte discussions with Commission staff on LNP, U S WEST has reviewed its approach to the deployment of multi-functional software such as AIN and SS7 software which is also needed to provide LNP. In the absence of the LNP requirement, U S WEST considers three factors in deciding when and where to deploy such multi-functional software to allow for the provision of advanced switch-based services. These factors are: 1) market demand, 2) cost to deploy, and 3) capital limitations/return on investment. Market demand is a critical ingredient in the decision to deploy multi-functional software. The primary market for many software-based services is the business market -- without a sufficient base of business customers it may not make sense to offer certain services. This is particularly true for small cities. The list of towns that are scheduled for AIN upgrades for Ericsson switches demonstrates this point. (See Attachment 1.)

Cost to deploy software-based services over and above the software itself is also an important consideration. For example, in order to provide certain AIN services to business customers, it may be necessary to incur costs for additional peripherals, routers, ethernet T1s, software, and ISDN lines and trunking. These costs in addition to ongoing marketing and support costs can add up to millions of dollars and may be the determining factor in whether to deploy multi-functional software in a given location. A related consideration is return on investment/capital limitations. Even where demand is sufficient and costs are acceptable, capital

businesses and individuals would not purchase such services if they were available in these areas. They will, but never in sufficient quantities to justify installation of the software in the absence of the requirement to provide LNP. As such, the only reasonable approach to apportioning such software costs between LNP and other services is to assign all costs to LNP with an offset for net revenues (i.e., revenues less other costs) generated by these new software-based services. Given LECs' experience in selling these same services (e.g., Caller ID, Last Call Return, Selective Call Forwarding, etc.) in other areas, it should be possible to estimate consumer acceptance with a fair degree of certainty.[23] If no additional net revenues are anticipated from such new services, the entire cost of generic upgrades and other software should be assigned entirely to LNP.[24]

IV. CONCLUSION

U S WEST urges the Commission to find that the costs discussed above are "carrier-specific costs directly related to providing number portability" which may

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limitations in any given year or anticipated return levels may lead to the decision not to deploy software in many switches.

[23] For example, U S WEST has experienced penetration rates among residence customers for Caller ID, Last Call Return, and Selective Call Forwarding of 33%, 7%, and 5%, respectively, in wire centers served by switches that are CLASS-capable.

[24] U S WEST has entered into agreements with certain switch vendors which allow U S WEST to use selected features of multi-functional software. For example, for many of its 1AESS switches, U S WEST purchased the 1AE13 generic and necessary applications software solely to provide LNP capability. In such cases, the entire cost of such multi-functional software should be assigned to LNP.

lawfully be included in the calculation of any LNP end-user surcharge or query charge.

Respectfully submitted,

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August 3, 1998

Attachment 1

LOCATIONS OF ERICSSON SWITCHES WITH PLANNED AIN UPGRADES

Atlantic, IA
Billings, MT
Boise, ID
Bismarck, ND
Cedar Rapids, IA
Colorado Springs, CO
Council Bluffs, IA
Dickinson, ND
Davenport, IA
Greeley, CO
Helena, MT
Huron, SD
Idaho Falls, ID
Jamestown, ND
Longmont, CO
Mountain Home, ID
Pine City, MN
Pocatello, ID
Spencer, IA
Sioux City, IA
Sioux Falls, SD
Twin Falls, ID
Williston, ND
Windom, MN

CERTIFICATE OF SERVICE

I, Rebecca Ward, do hereby certify that on this 3rd day of August, 1998, I have caused a copy of the foregoing **COMMENTS OF U S WEST COMMUNICATIONS, INC.** to be served, via hand delivery, upon the persons listed on the attached service list.

Rebecca Ward

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